ArcelorMittal

January 8, 2016

Mr. Michael Mikulka 1/15/16
USEPA – Region 5
77 West Jackson Blvd., LU-9J
Chicago, IL 60604-3590

**Re: RCRA 3013 Administrative Order IND 005 462 601**
**Response to USEPA Comments Dated October 30, 2015**
**Additional Site Investigation Report for the Former Coke Plant**
**Tecumseh Redevelopment, Inc., East Chicago, Indiana**

Dear Mr. Mikulka:

This letter has been prepared in response to the United States Environmental Protection Agency (USEPA) e-mail communication dated October 30, 2015, regarding the referenced Former Coke Plant located in East Chicago, Indiana. Based on previous investigation results, additional investigations were conducted in 2012 and 2013 to further evaluate soil, groundwater, and light non-aqueous phase liquids (LNAPL) impacts at the Former Coke Plant. This additional investigative work scope was presented in the USEPA-approved Additional Investigation/Source Evaluation Work Plan (Revision 1) dated March 2011, prepared by the former consultant, AECOM. In January 2014, an Additional Site Investigation Report for the Former Coke Plant was prepared by Ramboll Environ US Corporation (Ramboll Environ), formerly ENVIRON International Corporation (ENVIRON) and submitted to the USEPA. The USEPA provided comments to the January 2014 Additional Site Investigation Report in a letter dated February 21, 2014. ArcelorMittal Indiana Harbor LLC (ArcelorMittal) provided responses to the USEPA's February 2014 comments in a letter dated July 14, 2014. The April 28, 2015 USEPA correspondence provided comments to the July 2014 ArcelorMittal letter and indicated that additional activities needed to be included in a pre-design work plan to address data gaps related to the Former Coke Plant Area. The April 28, 2015 USEPA correspondence further requested that a revised Additional Site Investigation Report, which address the April 2015 USEPA comments, and a Pre-Design Work Plan, be submitted to the USEPA.

In a letter dated August 7, 2015, ArcelorMittal provided final responses to the April 2015 USEPA letter. In an e-mail communication dated August 28, 2015, the USEPA indicated that it was in general agreement with the August 7, 2015 ArcelorMittal response letter, and requested that: 1) the revised Additional Site Investigation Report be submitted to the USEPA within 30 days, and 2) the Pre-Design Work Plan be submitted to the USEPA within 90 days. The revised Additional Site Investigation Report was submitted to the USEPA on September 25, 2015.

In an e-mail communication dated October 30, 2015, the USEPA provided responses to the revised Additional Site Investigation Report dated September 25, 2015. This letter has been prepared to provide responses to the October 30, 2015 USEPA correspondence. The USEPA comments are identified below as numbered in the October 30, 2015 USEPA comments, and the corresponding responses are provided below each comment in ***bold and italic font.***

**GENERAL COMMENTS**

The USEPA is concerned that one additional exposure pathway is not being considered, namely transport of volatile contaminants from the subsurface through the slag/fill layer to receptors above ground. We understand this area is currently being used as a parking/staging area and has an unspecified future use. A review of the boring logs contained in Appendix A shows the slag/fill layer typically containing volatile organics as evidenced by the PID/FID readings in the boring logs. There appears to be a transfer of volatile contaminants from the more contaminated subsurface to the overlying fill material. In addition, contamination in the LNAPL layer may also be transferred to the overlying material via this pathway. See Appendix A boring logs for SB-880 and SB-881, shallow soil borings downgradient of the former benzol storage area that appear to be impacted by LNAPL. The USEPA requests that this pathway be evaluated going forward. Further, it appears that the Conceptual Site Model Diagram (Figure 3) needs to be revised to account for this additional contaminant migration pathway and potential exposure route to receptors.

***Response: The West Mill is a heavily industrialized facility and will continue to be in the foreseeable future. The vapor intrusion pathway is currently incomplete based on the absence of site buildings at the former Coke Plant. The vapor intrusion pathway will be evaluated in the event of future construction of buildings at the site, considering their use and occupancy. Institutional controls will be considered as part of closure.***

**SPECIFIC COMMENTS**

Section 2.2.1 Conclusions on Page 7: It is requested that the second sentence of that paragraph be revised to read: "Detected PAHs observed in surface soils are attributable to the former use of the site as a coke plant and for coking by-products recovery."

***Response: Section 2.2.1 of the enclosed text has been revised as follows: Detected PAHs observed in surface soils are attributable to the former use of the site as a coke plant and for coking by-products recovery. In addition, PAHs continuously move through the environment, often via atmospheric transport. The subsequent deposition of particulates containing PAHs along with other sources of PAHs, such as natural vegetative decay, result in "background" PAHs in surficial soils. Even in pristine areas, surface and near surface soils often contain detectable levels of PAHs."***

The results of soil sampling and analysis is discussed in Section 6.1: The conclusion there in Paragraph 2 on Page 24 regarding LNAPL does not appear to be supported by review of the data in Appendix A for boring logs SB-880 and SB-881. Both of those borings were terminated at 8 feet bgs, just as the soil went from dry to moist with some odor to moist or wet with strong odor and a color change towards black. This would support a conclusion that those borings are impacted by LNAPL. The USEPA believes that these observations contradict the factors and conclusions stated in Section 6.2.4 that LNAPL is stable and cannot be migrating.

***Response: The forthcoming Pre-Design Investigation will provide substantial additional information regarding the nature and extent of LNAPL near the former benzol storage area. Section 6.1 will be revised as follows: "Three of the soil borings (identified as SB-880, SB-881, and SB-883 on Figure 2) were installed radially downgradient from the former benzol storage area, to evaluate the extent of the previously-identified LNAPL. None of the slag-fill and soil samples retrieved from these borings revealed the visual presence of LNAPL."***

Section 7 Summary of Additional Site Investigation: This section appears to need revisions to be consistent with the submitted Report, as identified below. The USEPA is anticipating that all parameters that exceed DQOs will be addressed in the Pre-Design Work Plan, not just benzene, and that the remedial effort will include conventional parameters as well such as ammonia, chloride, sulfate, etc.

***Response: The November 2015 Pre-Design Work Plan addresses all parameters that exceed DQOs. Ammonia, sulfate, and chloride ions are residual products from the production of coke, and their presence will be considered as part of CMS evaluations.***

Section 7.3 Groundwater Conditions: This section should be revised as follows: (a) revise Paragraph 1 to state that the MCL for benzene (0.005 mg/L) was exceeded at eight additional wells, that the MCL for toluene (1.0 mg/L) was exceeded at four additional wells, that the MCL for ethylbenzene (0.7 mg/L) was exceeded at one well, and that the MCL for methylene chloride (0.005 mg/L) was exceeded at seven additional wells; (b) revise Paragraph 2 to state that the IDEM Default Closure DQO for pentachlorophenol (0.024 mg/L) was exceeded at one well (MW-825S) and the MCL (0.001 mg/L) was exceeded at one additional well (MW-807D); (c) revise Paragraph 3 to state that the MCL for benzo(a)pyrene (0.0002 mg/L) was exceeded at two wells (MW-808S and MW-821S), and that the IDEM groundwater solubility DQO for indeno(1,2,3-c,d)pyrene was exceeded at 15 wells; (d) revise Paragraph 4 to state that the MCL for selenium (0.05 mg/L) was exceeded at one well (MW-807D) and the MCL for thallium (0.002 mg/L) was exceeded at 12 wells (see Page 31 for list); (e) revise Paragraph 5 to reflect that the arsenic found in the groundwater may be from coal storage on the site.

***Response: Section 7.3 of the enclosed text has generally been revised as requested. However, we conclude the following:***

- ***The MCL for benzene was exceeded at seven additional wells, rather than eight additional wells (MW-801S, MW-807S, MW-814S, MW-816S, MW-818S, MW-825S, and MW-826M).***
- ***The MCL for toluene was exceeded at three additional wells, rather than four additional wells (MW-808S, MW-821S, and MW-808D).***
- ***The MCL for methylene chloride was exceeded at six additional wells, rather than seven additional wells (MW-808S, MW-821S, MW-809M, MW-807D, MW-821D, and MW-824D).***

Section 7.3 Groundwater Conditions second to last paragraph and last paragraph: Is it the intent of the discussion to limit the COCs to benzene? If that is the case, the USEPA disagrees with that conclusion since the monitoring data shows the significant number of parameters exceeding various DQOs.

***Response: As indicated above, the November 2015 Pre-Design Work Plan addresses all parameters that exceed DQOs, and their presence will be considered as part of CMS evaluations.***

Section 7.4 LNAPL Conditions: Based on the data in Table 11, the LNAPL is a significant source to the groundwater of not only BTEX but also other parameters, including naphthalene, ten other PAHs, and several SVOCs. The removal of this source needs further evaluation going forward. This is not expected to be technically challenging since the depth to NAPL is only 6 to 9 feet bgs.

***Response: Removal of the LNAPL source will be considered as part of CMS evaluations.***

Section 8. Conclusions: This section needs revisions to be consistent with the submitted Report, as follows. The first bullet references Figure 13 as depicting the LNAPL plume. Figure 13 is the DQO Exceedances in Deep Groundwater and does not show the LNAPL plume. The only figure depicting the LNAPL plume in the Report is Figure 11. Please correct bullet 1.

***Response: Section 8 of the enclosed text has been revised to indicate that Figure 11 depicts the extent of the LNAPL plume.***

The second bullet references Figure 8, the extent of soil impacts above IDEM DQOs in the vicinity of the LNAPL plume. Figure 8 is the Deep Potentiometric Surface in October 2012. The correct reference may be to Figure 10?

***Response: Section 8 of the enclosed text has been revised to indicate that Figure 10 identifies data quality objective exceedances in soil.***

Please verify that the figures cited in Bullet 4 (western extent of impacted groundwater) are correct.

***Response: The figures cited in Bullet 4 (western extent of impacted groundwater) of Section 8 are correct as indicated.***

If you have any questions regarding ArcelorMittal's responses to USEPA's comments, please contact us at your convenience.

Sincerely,

ArcelorMittal USA

Keith Nagel
General Manager, Environmental Affairs and Real Estate

Attachment: Additional Site Investigation Report, Revision 2

cc: Thomas Barnett, ArcelorMittal USA
Cary Mathias, ArcelorMittal USA
Jeanne Tarvin, Ramboll Environ

# CERTIFICATION

I certify that the information contained in or accompanying this submission is true, accurate, and complete (to the best of my knowledge).

Keith Nagel

Date: 1/8/16

Keith Nagel
General Manager, Environmental Affairs and Real Estate
ArcelorMittal USA